

In the Claims

Please amend the claims as follows. Applicants present a full set of claims showing markups of the claims with insertions and deletions indicated by underlining and strikethrough text, respectively.

1. (Original) An oligonucleotide molecule for use in the detection of mRNA transcribed from the E6 gene of a human papillomavirus, the oligonucleotide comprising any one of sequence numbers 1-133.
2. (Currently amended) An oligonucleotide molecule according to claim 1 ~~in the detection of mRNA transcribed from the E6 gene of a human papillomavirus, the~~ which is an oligonucleotide primer selected from:
 - (i) a NASBA P1 primer comprising one of sequence numbers 2, 4, 8, 11, 14, 17, 20, 22, 25, 28, 31, 34, 37, 39, 42, 45, 48, 50, 52, 57, 60, 63, 65, 69, 71, 75, 78, 81, 84, 87, 90, 92, 96, 98, 100, 105, 107, 111, 113, 115, 121, 126, 127, 128 or 129;
 - (ii) a NASBA P2 primer comprising one of sequence numbers 1, 3, 7, 10, 13, 16, 19, 21, 24, 27, 30, 33, 36, 38, 41, 44, 47, 49, 51, 56, 62, 64, 68, 70, 74, 77, 80, 83, 86, 89, 91, 95, 97, 99, 104, 106, 110, 112, 114, 120, 103, 131, 132 or 133; and
 - (iii) a PCR primer comprising one of sequence numbers 1, 3, 7, 10, 13, 16, 19, 21, 24, 27, 30, 33, 36, 38, 41, 44, 47, 49, 51, 56, 59, 62, 64, 68, 70, 74, 77, 80, 83, 86, 89, 91, 95, 97, 99, 104, 106, 110, 112, 114, 120, 2, 4, 8, 11, 14, 17, 20, 22, 25, 28, 31, 34, 37, 39, 42, 45, 48, 50, 52, 57, 60, 63, 65, 69, 71, 75, 78, 81, 84, 87, 90, 92, 96, 98, 100, 105, 107, 111, 113, 115, 121, 126, 127, 128, 129, 130, 131, 132 or 133.
3. (Currently amended) An oligonucleotide primer according to claim 2 which is a NASBA P1 primer having the sequence AATTCTAATACGACTCACTATAGGGAGAAGG-SEQ, wherein SEQ represents any one of sequence numbers 2, 4, 8, 11, 14, 17, 20, 22, 25, 28, 31, 34,

37, 39, 42, 45, 48, 50, 52, 57, 60, 63, 65, 69, 71, 75, 78, 81, 84 87, 90, 92, 96, 98, 100, 105, 107, 111, 113, 115, 121, 126, 127, 128 or 129, and wherein

AATTCTAATACGACTCACTATAGGGAGAAGG is SEQ ID NO:385.

4. (Currently amended) An oligonucleotide primer according to claim 2 which is a NASBA P2 primer having the sequence GATGCAAGGTCGCATATGAG-SEQ wherein SEQ represents any one of sequence numbers 1, 3, 7, 10, 13, 16, 19, 21, 24, 27, 30, 33, 36, 38, 41, 44, 47, 49, 51, 56, 59, 62, 64, 68, 70, 74, 77, 80, 83, 86, 89, 91, 95, 97, 99, 104, 106, 110, 112, 114, 120, 130, 131, 132 or 133, and wherein GATGCAAGGTCGCATATGAG is SEQ ID NO:387.

5. (Currently amended) An oligonucleotide molecule according to claim 1 which is a probe for use in the detection of mRNA transcribed from the E6 gene of a human papillomavirus comprising one of sequence numbers: 5, 6, 9, 12, 15, 18, 23, 26, 29, 32, 35, 40, 43, 46, 53, 54, 55, 58, 61, 66, 67, 72, 73, 76, 82, 85, 88, 93, 94, 101, 102, 103, 108, 109, 116, 117, 118, 119, 122, 130, 131, 132 or 133.

6.-7. (Canceled)

8. (Currently amended) An oligonucleotide primer-pair for use in the detection of mRNA transcripts from the E6 gene of HPV 31, comprising ~~one of the following combinations:~~

~~an oligonucleotide primer comprising sequence number 24 and an oligonucleotide primer comprising sequence number 25;~~

~~an oligonucleotide primer comprising sequence number 27 and an oligonucleotide primer comprising sequence number 28;~~

~~an oligonucleotide a NASBA P2 primer comprising sequence number 30 and an oligonucleotide a NASBA P1 primer comprising sequence number 31;~~

~~an oligonucleotide primer comprising sequence number 33 and an oligonucleotide primer comprising sequence number 34; or~~

~~an oligonucleotide primer comprising sequence number 36 and an oligonucleotide primer comprising sequence number 37.~~

9. (Currently amended) An oligonucleotide primer-pair for use in the detection of mRNA transcripts from the E6 gene of HPV 33, comprising ~~one of the following combinations:~~

~~an oligonucleotide a NASBA P2 primer comprising sequence number 38 and an oligonucleotide a NASBA P1 primer comprising sequence number 39;~~

~~an oligonucleotide primer comprising sequence number 41 and an oligonucleotide primer comprising sequence number 42; or~~

~~an oligonucleotide primer comprising sequence number 44 and an oligonucleotide primer comprising sequence number 45.~~

10-15. (Canceled)

16. (Currently amended) An oligonucleotide primer-pair for use in the detection of mRNA transcripts from the E6 gene of HPV 45, comprising ~~one of the following combinations:~~

~~an oligonucleotide a NASBA P2 primer comprising sequence number 89 and an oligonucleotide a NASBA P1 primer comprising sequence number 90;~~

~~an oligonucleotide primer comprising sequence number 91 and an oligonucleotide primer comprising sequence number 92;~~

~~an oligonucleotide primer comprising sequence number 95 and an oligonucleotide primer comprising sequence number 96;~~

~~an oligonucleotide primer comprising sequence number 97 and an oligonucleotide primer comprising sequence number 98; or~~

~~an oligonucleotide primer comprising sequence number 99 and an oligonucleotide primer comprising sequence number 100.~~

17-20. (Canceled)

21. (Currently amended) A primer/probe set comprising a primer-pair according to any one of claims ~~6 to 20~~ 8, 9 or 16 and at least one oligonucleotide probe specific for amplification products generated using the primer-pair.

22. (Currently amended) A method of detecting HPV mRNA in a test sample suspected of containing HPV which comprises performing ~~an~~ a nucleic acid sequence based amplification (NASBA) reaction on a preparation of nucleic acid isolated from the test sample to amplify a portion of the mRNA transcribed from the E6 gene of HPV, wherein the amplification reaction is performed using a primer-pair according to any one of claims ~~6 to 18~~ 8, 9 or 16.

23-24. (Canceled)

25. (Currently amended) A method according to claim 22 which comprises:

(a) assembling a reaction mixture comprising ~~a primer set as defined in any one of claims 6 to 18~~ said primer-pair, an RNA directed DNA polymerase, a ribonuclease that hydrolyses the RNA strand of an RNA-DNA hybrid without hydrolysing single or double stranded RNA or DNA, an RNA polymerase that recognises said promoter, and ribonucleoside and deoxyribonucleoside triphosphates;

(b) incubating said reaction mixture with a preparation of nucleic acid isolated from a test sample suspected of containing HPV under reaction conditions which permit a NASBA amplification reaction; and

(c) detecting and/or quantitatively measuring any HPV-specific product of the NASBA amplification reaction.

26. (Original) A method according to claim 25 wherein step (c) comprises real-time detection of an HPV-specific product of the NASBA amplification reaction.

27. (Currently amended) A method according to claim 25 ~~or claim 26~~ wherein the reaction mixture further comprises a molecular beacons probe oligonucleotide and the formation of any HPV-specific NASBA product in the NASBA reaction is monitored by detecting fluorescence from the fluorescent moiety included in the molecular beacons probe.

28. (Canceled)

29. (Currently amended) A reagent kit for use in the detection of HPV by NASBA, the kit comprising an oligonucleotide primer-pair as defined in any one of claims 8, 9 or 16 ~~claim 19~~ and optionally an enzyme mixture comprising an RNA directed DNA polymerase, a ribonuclease that hydrolyses the RNA strand of an RNA-DNA hybrid without hydrolysing single or double stranded RNA or DNA, and an RNA polymerase that recognises the promoter sequence present in at least one NASBA P1 primer oligonucleotide included in the reagent kit.

30. (New) An oligonucleotide molecule according to claim 5 which is a molecular beacon probe.

31. (New) A method according to claim 26 wherein the reaction mixture further comprises a molecular beacons probe oligonucleotide and the formation of any HPV-specific NASBA product in the NASBA reaction is monitored by detecting fluorescence from the fluorescent moiety included in the molecular beacons probe.